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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,513	07/03/2003	Brian Y. Lim	ATOMP001	4790

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EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT PAPER NUMBER

1725

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/613,513	LIM ET AL.	
	Examiner	Art Unit	
	M. Alexandra Elve	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 29-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 29-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/7/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 states "a set of islands of catalyst"; it is not clear how a set of islands of catalyst can be associated with one die. Is the die very large, are the catalyst areas scattered about?

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 states "all catalyst throughout said die". Is the catalyst on, in or near the die(s)? The independent claim refers to dies, while claim 9 discloses a die.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 states: "any given die of a workpiece".

Double Patenting

Claims 1-18 & 29-55 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-36 of copending Application No. 10/613,217. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 & 29-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colbert et al. (US Pat. 6,756,026) in view of Haruta (USPN 6,110,291) and Nakayama (USPAP 2004/0087116 A1).

Colbert et al. discloses a system in which nanocomponents for nanodevices are made. The system has a mounting element such as a precision translation stage(s) having movement capabilities in the XYZ directions. Mounting requires a minimum of two precision stages. Carbon feedstock gas may be added into the reactor. A catalyst may be formed in-situ using temperatures of 400 to 2000 C. Heat can be supplied in a locally using a laser (e.g. argon), microwave energy, or R-F energy. (abstract, figures, col. 4, lines 44-58, col. 7, lines 12-40, col. 9, lines 30-54, col. 25, lines 1-31, col. 26, lines 34-50)

Colbert et al. does not teach multiple radiating energy beams (prongs) or the use of a beamsplitter or an electric field generator.

Haruta et al. discloses a laser apparatus for forming thin films. The apparatus includes a laser, a chamber, a target, and a substrate holder. In an embodiment the target is laser evaporated in order to generate plumes; these plumes are deposited onto the substrate. In addition the embodiment has a beam splitter, a mirror, a linear moving

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stage and a linear moving stage controlling apparatus. The laser beam emitted from the laser unit is divided into a plurality of laser beams by means of a plurality beam splitter, which is directed into a plurality of mirrors, condensers, and inlet windows and then is incident onto a plurality of portions of the raw material target. This in turn generates plumes for deposition. (abstract, figures, col. 43-45)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a beamsplitter as taught by Haruta et al. in the Colbert et al. system because this would yield multiple beams and hence decrease the processing time required to form a nanotube product.

Nakayama discloses a semiconductor device, which is laser, treated and subjected to heating and cooling. One treatment is applying a magnetic field to the workpiece using a magnetic field generator.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a magnetic field generator as taught by Nakayama et al. in the Colbert et al. system because this can deposition effects, much that same as a catalyst.

The magnetic field generator is a functional equivalent to an electric field generator, by admission in applicant's specification.

Intended use has been continuously held not to be germane to determining the patentability of the apparatus, Ex parte Wikdahl 10 USPQ 2d 1546 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); In re Finsterwalder 168 USPQ 530 (CCPA 1971); In re Casey 152 USPQ 235, 238 (CCPA 1967); Ex parte Masham 2

USPQ 2d. 1647. Duplication of parts was held to have been obvious. In re Harza 124 USPQ 378.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See US PTO-892.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 13, 2006.



M. Alexandra Elve
Primary Examiner 1725